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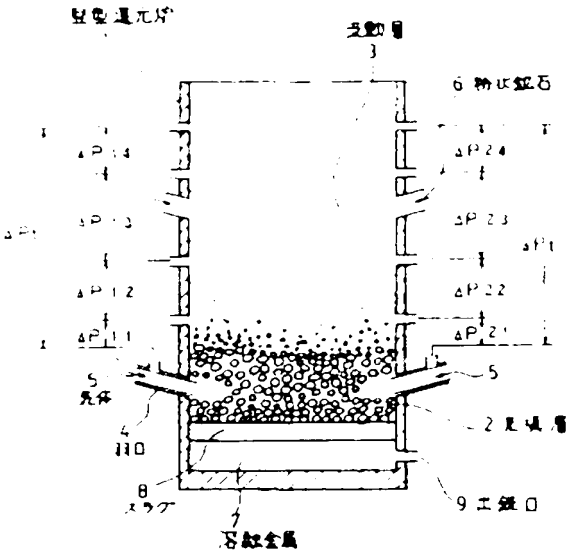
TITLE : PRODUCTION OF MOLTEN METAL FROM POWDERY ORE



ABSTRACT : PURPOSE: To stably produce molten metal by blowing a gas into the bed packed with a reducing agent in a shaft reducing furnace from plural tuyeres, regulating the flow rate of the gas or the amt. of ore to be blown in from the upper part in accordance with the pressure deviation at each tuyere, and reducing the ore.

CONSTITUTION: The bed 2 packed with a carbonaceous solid reducing agent and a fluidized bed 3 thereon are formed in the shaft reducing furnace 1 and maintained. An oxygen-contg. gas 5 is blown into the packed bed 2 from tuyeres 4 provided at several sites in the circumferential direction, and the formed high-temp. reducing gas is sent upward. Meanwhile, powdery ore 6 is blown into the fluidized bed 3, smelted and reduced, and molten metal 7 is obtained at the furnace bottom. The pressure drop between each tuyere 4 and the upper specified height is measured in the production of molten metal. Then the flow rate of the gas to be blown in from the tuyere 4 and/or the amt. of ore to be blown in from the powdery ore blowing port positioned above the tuyere 4 are regulated in accordance with the deviation. Consequently, the furnace conditions are stably maintained, and the stability of the operation can be maintained for a long period.